

**We claim:**

1           1. A tap-changing assembly for power transformers,  
2 comprising:

3           a tap changer having at least one vacuum interrupter  
4 open-circuiting upon a tap change and conducting an electric  
5 current in an absence of a tap change; and

6           a monitoring device for monitoring timely operation of  
7 said vacuum interrupter, said monitoring device comprising:

8           at least one interrogatable surface wave  
9 sensor proximal to a conductor in circuit with said vacuum  
10 interrupter,

11           an interrogating unit spaced from said vacuum  
12 interrupter and transmitting a high-frequency signal to and  
13 receiving a high-frequency signal from said sensor, and

14           a monitoring circuit electrically connected  
15 to said interrogating unit and responsive to a signal received by  
16 said interrogating unit from said sensor for signalling a status  
17 of said vacuum interrupter.

1           2. The tap-changing assembly defined in claim 1  
2 wherein the tap changer is configured for a polyphase system and  
3 each phase is provided with at least one of said vacuum

4     interrupters and each of said vacuum interrupters is provided  
5     with a respective one of said surface wave sensors.

1             3.   The tap-changing assembly defined in claim 2  
2     wherein said vacuum interrupters and surface wave sensors are  
3     located in an oil-containing housing of said tap changer and said  
4     interrogating unit and monitoring circuit are located in a region  
5     of a motor drive for said tap changer.

1             4.   The tap-changing assembly defined in claim 2  
2     wherein said surface wave sensors are radio-interrogated surface  
3     wave sensors and said interrogating unit has an oscillator  
4     operating in a frequency range of 100 MHz to 3 GHz and an  
5     antenna.

1             5.   The tap-changing assembly defined in claim 2,  
2     further comprising contacts connected to said monitoring circuit  
3     for establishing critical time points for interrogating said  
4     sensors.